

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-056984

(43)Date of publication of application : 05.03.1996

(51)Int. Cl.

A61F 13/15

A61F 5/44

(21)Application number : 06-198627

(71)Applicant : UNI CHARM CORP

(22)Date of filing : 23.08.1994

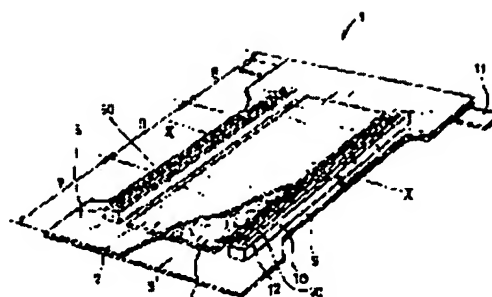
(72)Inventor : YAMAKI RUMI  
SHIMADA TAKAAKI  
KITAOKA HIDEAKI

## (54) DISPOSABLE BODILY FLUID ABSORBENT WEARING ARTICLE

## (57)Abstract:

**PURPOSE:** To improve the tight fit of an article around the legs so as to prevent the leakage of the bodily fluid and to improve wearing feel by joining and fixing the rear surfaces of leakproof disks to the articles, covering their front surfaces with non-woven fabric and adhering elastic members elongated in a longitudinal direction on the tops of the front surfaces or the inside surfaces facing the tops of the non-woven fabric sheet.

**CONSTITUTION:** A diaper 1 is formed by interposing a liquid absorbent core 4 between a liquid permeable front surface sheet 2 and a liquid impermeable rear surface sheet 3. Side flaps 5 are formed by joining the prescribed parts of the front and rear surface sheets 2, 3 extending sideways from the right and left side edges of this liquid absorbent core 4. The leakproof dikes 10 are extended at these side flaps 5 in the longitudinal direction of front and rear bodies 7, 8 around. Tape zippers 11 are extended from the side edges of the side flaps 5 at the rear body 8. The leakproof dikes 10 are bar- or sheet-shaped members having resilience and elasticity and the tops 12 thereof are coated with the front surface sheet 2. The elastic members 30 extended in the longitudinal direction of the diaper 1 are joined by hot melt adhesives, etc., to the front surfaces of the stop parts 12.



## LEGAL STATUS

[Date of request for examination] 13.03.1998

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3217214

[Date of registration] 03.08.2001

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C): 1998,2003 Japan Patent Office

BEST AVAILABLE COPY

## \* NOTICES \*

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

CLAIMS

---

## [Claim(s)]

[Claim 1] The length-from-the-crotch-to-the-cuff contact region which makes an absorbent core come to intervene between a liquid permeability surface sheet and a non-liquid permeability rear-face sheet, In the body fluid absorptivity wear goods of throwing away which has body fluid \*\*\*\*\* of the soft-elastic ingredient which is in each of right-and-left both sides of this regional side at least, and is prolonged to a cross direction, and contacts and uses said inside to a wearer's length from the crotch to the cuff Said wear goods characterized by having stuck the elastic member elongated at said cross direction to the inside of the part which carries out junction immobilization of said \*\*\*\*\* on the inferior surface of tongue at said goods, and covers the top face with a nonwoven fabric sheet at least, and faces the crowning of the top face, or this crowning of said nonwoven fabric sheet.

---

[Translation done.]

## \* NOTICES \*

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

## DETAILED DESCRIPTION

## [Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to body fluid absorptivity wear goods of throwing away used in contact with a wearer's length from the crotch to the cuff, such as a disposable diaper and a sanitary napkin.

[0002]

[Description of the Prior Art] Preparing conventionally body fluid \*\*\*\*\* prolonged to a cross direction on right-and-left both sides of the length-from-the-crotch-to-the-cuff contact regional side in the body fluid absorptivity wear goods of throwing away used in contact with the length from the crotch to the cuff of a disposable diaper, a sanitary napkin, etc. is known as a common use technique. For example, JP,60-136308,U is indicating the technique which elongates and sticks the charge of soft-elastic foam of the comparatively broad quality of sponge on the both sides of a diaper length-from-the-crotch-to-the-cuff region to a cross direction as this \*\*\*\*\*. According to this technique, the charge of foam forms \*\*\*\*\* which contracts, carries out curve bulge in a wearer's length-from-the-crotch-to-the-cuff direction, makes it flexible, and has elasticity. Moreover, JP,62-88704,U is indicating the technique which sticks the charge of soft-elastic foam of the shape of a tape which becomes the both sides of the length-from-the-crotch-to-the-cuff section from polyurethane foam etc. so that a crosswise cross section may become omega-like, and is made into \*\*\*\*\*. According to this technique, good flexible \*\*\*\*\* of the adhesion which often follows in footsteps of the motion of the circumference of length from the crotch to the cuff or a foot can be obtained.

[0003]

[Problem(s) to be Solved by the Invention] by the way, the stability which is going to return to the original form at the \*\*\*\*\* if it is worn and \*\*\*\*\* is incurvated along with the circumference of length from the crotch to the cuff or a foot in the wear goods which constituted \*\*\*\*\* from soft-elastic ingredients, such as urethane foam, -- working -- a wearer's body -- concordance -- being hard -- there are things. Consequently, although a clearance is produced, and body fluid leakage is not produced or it does not result between said goods and bodies at it, there is a problem which, if the worst happens, says the feeling of wear of said goods.

[0004] Then, this invention is sticking the elastic member of elasticity on the crowning of \*\*\*\*\* in the state of expanding, and makes it the technical problem to solve said problem.

[0005]

[Means for Solving the Problem] The place made into a means in order that this invention may solve said technical problem is as follows.

[0006] In this invention, it has the length-from-the-crotch-to-the-cuff contact region which makes an absorbent core come to intervene between a liquid permeability surface sheet and a non-liquid permeability rear-face sheet, and body fluid \*\*\*\*\* of the soft-elastic ingredient which is in each of right-and-left both sides of this regional side at least, and is prolonged to a cross direction, and is premised on the body fluid absorptivity wear goods of throwing away which contacts and uses said inside to a wearer's length from the crotch to the cuff.

[0007] It is the description of this invention to stick on the bottom of this premise the elastic member elongated at said cross direction to the inside of the part which carries out junction immobilization of the \*\*\*\*\* on that inferior surface of tongue at said goods, and covers that top face with a nonwoven fabric sheet at least, and faces the crowning of that top face or said crowning of said nonwoven fabric sheet.

[0008]

[Function] Thus, in the body fluid absorptivity wear goods of constituted throwing away, when the elastic member of the expanding condition stuck on the inside of the part which faces the crowning of \*\*\*\*\* or the crowning of a nonwoven fabric sheet contracts, the inclination which, as for \*\*\*\*\* , the cross direction carries out a crowning inside, and curves is shown, and the adhesion to the circumference of the foot of said goods becomes good.

[0009]

[Example] It is as follows when the detail of the body fluid absorptivity wear goods concerning this invention is explained with reference to an attached drawing taking the case of a disposable diaper.

[0010] Drawing 1 is the partial fracture perspective view of the disposable diaper 1 in the condition of having extended forward and backward. The front rear-face sheets 2 and 3 which a diaper 1 makes the absorbent core 4 come to intervene between the liquid permeability surface sheet 2 and the non-liquid permeability rear-face sheet 3, and extend from the right-and-left side edge of the absorbent core 4 to the side form the side flap 5 by joining a necessary part mutually. the cross direction of a diaper 1 -- past time -- 7 and later self -- time -- 8 and both body time -- 7 and 8 -- the length-from-the-crotch-to-the-cuff region 9 which intervenes in between constitutes -- having -- the side flap 5 on either side -- a core [ region / 9 / length-from-the-crotch-to-the-cuff ] -- order body time -- the longitudinal direction of 7 and 8 -- \*\*\*\*\* 10 -- extending -- later self -- time -- 8 -- setting -- the side flap 5 -- the tape fastener 11 has extended from the side edge. It is cylindrical or a sheet-like member and \*\*\*\*\* 10 has the crowning (skin contact side side) 12 in the condition of having proper cross-section configurations, such as a rectangle, circular, a trapezoid, etc. which made it flexible and was equipped with elasticity, and of having been covered with the surface sheet 2.

[0011] Drawing 2 is X-X-ray sectional view of drawing 1 , and shows the configuration of the length-from-the-crotch-to-the-cuff region 9 of a diaper 1. The mutual periphery sections 15 and 16 join watertight with hot melt adhesive 17, those inferior surfaces of tongue join to the rear-face sheet 3 intermittently with hot melt adhesive 17, and an absorber 4 and \*\*\*\*\* 10 have the front rear-face sheets 2 and 3 in

the condition that those locations were fixed. In addition, if, an absorber 4 and \*\*\*\*\* 10 may join to the surface sheet 2.

[0012] One or two elastic members 30 or more which were elongated to the cross direction of a diaper 1 are joined to the top face of the crowning 12 of \*\*\*\*\* 10 with hot melt adhesive (not shown).

[0013] Drawing 3 is the important section side elevation of \*\*\*\*\* 10, an elastic member 30 contracts drawing shown by the imaginary line, and the condition that the longitudinal direction of \*\*\*\*\* 10 \*\*\*\*\* the crowning 12 inside, and curved in connection with it is shown. Although the elastic member 30 of an expanding condition shows a contraction disposition, the inferior surface of tongue of \*\*\*\*\* 10 is in the condition of having been fixed to the rear-face sheet 3, if a diaper 1 is in a free condition, it will curve like an imaginary line and, as a result, the adhesion to the circumference of a wearer's foot will become easy.

[0014] Drawing 4 and 5 are drawing 1 which shows other examples of the mode of \*\*\*\*\* 10, and the same drawing as 3. In this diaper 1, the crowning 12 of \*\*\*\*\* 10 has the corrugated structure to which heights 13 and a crevice 14 are located in a line with a cross direction by turns in the length-from-the-crotch-to-the-cuff region 9 at least, and has made the curve of \*\*\*\*\* 10 easy. The imaginary line has shown signs that \*\*\*\*\* 10 of this diaper 1 curves to drawing 5. Although this \*\*\*\*\* 10 has height A and depth B of a crevice 14 and can define suitably the configuration of those dimension a, B, or a crevice 14, when \*\*\*\*\* 10 curves, it is desirable that the opposite side attachment wall 20 of the crevice 14 which makes a V character mold sticks mutually, enables it to take up a crevice 14, and prevents the leakage of the body fluid from there. But since the curve condition of \*\*\*\*\* 10 changes with wearers variously, while it makes height A of \*\*\*\*\* 10 high, it may make depth B shallow and may prevent horizontal leakage. In this \*\*\*\*\* 10, you may join to the inside of the part which an elastic member 30 is joined to the top face of a crowning 12, and also faces the crowning 12 of the surface sheet 2, and the difficulty of junction to a part for the corrugated structured division of an elastic member 30 can be avoided by doing so. In addition, when joining like this latter, the surface sheet 2 is joined to the crowning 12 of \*\*\*\*\* 10, and the shrinkage force of an elastic member 30 is made to act to the crowning 12 of \*\*\*\*\* 10.

[0015] In this invention, \*\*\*\*\* 10 can also be built with the nonwoven fabric made from a thermoplastic synthetic fiber which it builds with the independence or the charge of continuation foam which consists of thermoplastics, such as polyurethane and polyethylene, and which makes it flexible and has elasticity, and also fiber carries out crimp, and has compression stability. \*\*\*\*\* 10 can be covered with covering with the surface sheet 2 by making it intervene among the front rear-face sheets 2 and 3 like the example of illustration, and also turning up the side edge section of the rear-face sheet 3 to the inside side of a diaper 1, or after covering with the 3rd sheet other than front rear-face sheet 3, it can join it to a diaper 1. \*\*\*\*\* 10 can be used not only for the disposable diaper 1 but for a disposable sanitary napkin, TORENINGU trousers, the diaper for incontinencia, the pad for urine absorption, etc. In addition, the common use material of the technical field concerned can be used for the front rear-face sheets 2 and 3 or the absorbent core 4, and a well-known junction technique and a well-known heat joining technique can be used for junction of each part material.

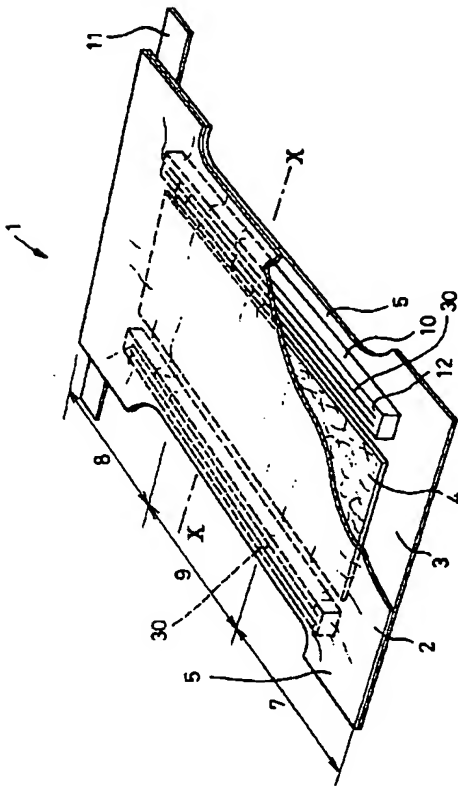
[0016]

[Effect of the Invention] Since the body fluid absorptivity wear goods of throwing away concerning this invention stuck the elastic member prolonged in the crowning of \*\*\*\*\* at a cross direction in the state of expanding, \*\*\*\*\* can carry out a crowning inside, and can curve, and they can be easily stuck to a wearer's body, and can prevent the horizontal leakage of body fluid.

[Translation done.]

Drawing selection Representative drawing

---

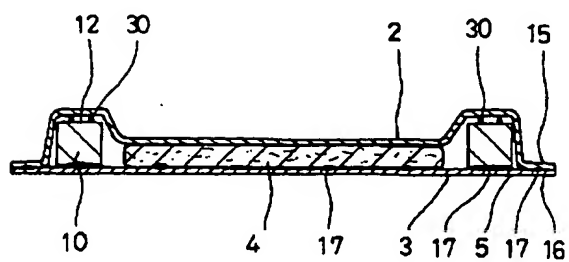


---

[Translation done.]

**BEST AVAILABLE COPY**

Drawing selection drawing 2



[Translation done.]

BEST AVAILABLE COPY